

# PATENT COOPERATION TREATY

REC'D 28 APR 2005

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From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

To:

see form PCT/ISA/220

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing

(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/IB2005/050303

International filing date (day/month/year)  
26.01.2005

Priority date (day/month/year)  
27.01.2004

International Patent Classification (IPC) or both national classification and IPC  
A61N1/36, A61B5/05

Applicant  
KONINKLIJKE PHILIPS ELECTRONICS, N.V.

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA:



European Patent Office - P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk - Pays Bas  
Tel. +31 70 340 - 2040 Tx: 31 651 epo nl  
Fax: +31 70 340 - 3016

Authorized Officer

Ferrigno, A

Telephone No. +31 70 340-2174



**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

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The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
- ☒ claims Nos. 18-20

because:

- ☐ the said international application, or the said claims Nos.      relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos.      are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the whole application or for said claims Nos. 18-20
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
  - the written form      ☐ has not been furnished
  - ☐ does not comply with the standard
  - the computer readable form      ☐ has not been furnished
  - ☐ does not comply with the standard
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
- ☐ See separate sheet for further details

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**Box No. V Reasoned statement under Rule 43b/s.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1-17
	No: Claims	
Inventive step (IS)	Yes: Claims	1-17
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-17
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**Re Item III.**

Rule 39.1(iv) PCT - Diagnostic method practised on the human or animal body: claimed the methods permit to map the gustatory ability of a patient and consequently to detect the presence of microlesions.

**Re Item V.**

1. Reference is made to the following documents:

- D1 : US 4 570 636 A (KUROSE ET AL) 18 February 1986 (1986-02-18)
- D2 : Physiological Measurement IOP Publishing UK, vol. 20, no. 4, 1999, pages 385-400, XP002325459 ISSN: 0967-3334
- D3 : WO 02/060522 A (SALIWIZER ITD; PINES, ERELLA; FENSTER, MARK) 8 August 2002 (2002-08-08)
- D4 : US 4 940 056 A (HECK ET AL) 10 July 1990 (1990-07-10)
- D5 : US 4 629 424 A (LAUKS ET AL) 16 December 1986 (1986-12-16)
- D6 : US 4 112 596 A (FLETCHER ET AL) 12 September 1978 (1978-09-12)

2. The invention relates to the production of taste sensations on the human tongue using electrical stimuli. The most relevant state of the art is disclosed in documents D1 and D2. These two documents just disclose a single electrode which comes in contact with the tongue to stimulate the taste sensation. Electrodes are applied to the patient head for detecting the evoked gustatory brain potentials.

Document D4 also mentions (col. 2, lines 6-9) a similar prior art.

From this, the subject-matter of independent claim 1 and 10 differs in that:

a tongue plate is provided including a plurality of stimulation nodes.

Furthermore the subject-matter of claim 1 also includes a saliva flow measurement means on an upper surface of the tongue plate.

2.1 The subject-matter of claims 1 and 10 is therefore novel (Article 33(2) PCT)

The problem to be solved by the present invention may be regarded as:  
to map the gustatory ability of a patient.

2.2 The solution to this problem proposed in claims 1 and 10 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

The disclosure of D1 and D2 does not hint at the solution since one single electrode also allows to map gustatory ability of a patient: the physician would position the electrode at various locations on the tongue.

None of the available prior art documents discloses or suggests a plate containing a plurality of electrodes to be applied to the tongue. Documents D5 and D6 disclose a plate containing electrodes, but the plate is not applied to the tongue since the plate is designed to record tongue movement or pressure.

Furthermore none of the available prior art documents discloses or suggests recording saliva flow measurement as response to gustatory stimulation.

Document D3 discloses a device measuring saliva flow but the aim is to stimulate salivation in subjects not having proper salivary production.

Hence, the skilled man would not combine D1 or D2 with any of documents D3-D6.

The subject-matter of claims 1 and 10, and consequently of dependent claims 2-9 and 11-17 meet the requirements of novelty and inventive step (Articles 33(2) and 33(3) PCT)